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ABSTRACT

Trends affecting postsecondary education finance, including declining enrollments, are considered, including: demographic changes, changes in student enrollment rates, fundamental shifts in the economy, and the changing social priority assigned to postsecondary education. Major demographic trends that have major implications for postsecondary education are a birth rate decline, fewer persons of traditional college age, and an aging population. Two dilemmas will confront higher education as enrollment-driven revenues for many institutions level and decline: new bases for justifying budget increases will be needed, and migration and population growth patterns will result in some campuses growing, some remaining stable, and other contracting, often within the same state. Changes in participation in higher education are analyzed by student sex, race, age, part-time enrollment status, income level, and ability level; by type of academic program; and by type of institution (public, private, and proprietary sectors). Economic trends affecting revenues available for postsecondary education include inflation, the scarcity of energy and natural resources, a growing competition for funds, the cost of higher education, productivity, and shifting sources of revenues. Social trends include views on the economic value of higher education and the production of advanced degrees. Contemporary trends will also affect the following goals of postsecondary education: access, diversity, quality, and economy. (SW)

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PAPERS IN EDUCATION FINANCE

Paper No. 3

HIGHER EDUCATION FINANCE ISSUES IN A PERIOD OF TRANSITION

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HIGHER EDUCATION FINANCE ISSUES IN A PERIOD OF TRANSITION

INTRODUCTION:

The Education Commission of the States, in planning this conference, suggested that this paper deal with analytic issues and financial problems caused by declining enrollments. In examining this topic, it became clear that declining enrollments are but part of an inter-related set of social trends that are affecting the financing of postsecondary education. An attempt to examine the effects of declining enrollments that does not make reference to this broader set of trends would fail to portray adequately fundamental finance issues. Therefore, this paper contains a somewhat more inclusive analysis of trends affecting postsecondary education finance.

DIMENSIONS OF POSTSECONDARY EDUCATION FINANCE:

This examination could deal with a number of areas that, together, broadly describe the field of postsecondary education finance. These areas include:

1. Factors that determine the amount of revenues devoted to post-secondary education. An examination could be made of the long-range demographic, enrollment, economic and social changes that are affecting the amount of revenues devoted to postsecondary education. Short-term factors such as student unrest, athletic success, scandal, scientific achievements, administrative leadership and new schemes for financing and budgeting also could be assessed for their impact on revenue levels.
2. Allocation of revenues among various segments of society. Studies in this area have examined the distribution of the costs of postsecondary education among persons at different income levels or from different

ethnic groups, between students and the public, between public and private donors, and among the different levels of government agencies. Because the providers of revenues typically have considerable influence over expenditures, debate in this area usually involves critical issues of democratic political theory as well as economic concerns regarding the relationship between costs and benefits.

3. The relationship of revenues to social objectives. Issues in this area concern the extent to which education contributes to objectives such as economic productivity, political stability, social mobility, preservation of knowledge and transmission of culture. Of central concern is whether the funds and manpower devoted to postsecondary education are in proper balance with those devoted to other social objectives.

4. The mix of resources provided to postsecondary education. The revenues devoted to higher education often are "earmarked"; some funds are only for capital expenditures and others solely for operating expenses. Some monies are devoted entirely to student financial aid. Often revenues within the operating budget are restricted for particular purposes such as library books, salaries or equipment. Federal funds generally are restricted to particular uses. Since revenues often are not fungible because of legal or administrative restrictions, issues arise as to whether the given mix of resources devoted to higher education is efficient in terms of achieving desired purposes. Research in this area explores whether the relationships among the revenues for facilities, equipment and salary is appropriate. For example, should more use be made of televised lectures? Can greater use

be made of existing public buildings freeing funds for instruction?

5. The distribution of the benefits occurring from use of revenues. Research in this area explores the distribution of the benefits of postsecondary education in terms of social equity and the needs of society. This area of study is closely related to the issue of who pays the costs of postsecondary education. Economic theory suggests that the costs of higher education should have some relationship to the distribution of its benefits. However, in practice, standards of social equity and problems of balancing competing interests lead to income redistribution. Furthermore, it is hard to determine accurately, in many circumstances, who pays and who benefits.
6. The mix of benefits that occurs from use of revenues. Research on this topic concerns whether the mix of outputs produced by revenues devoted to postsecondary education is appropriate in terms of various definitions of individual and collective welfare. Questions address topics such as: Is too much research conducted in contrast to teaching? Does the curriculum contain too great an emphasis on liberal rather than occupationally oriented subjects?
7. The organization and processes of revenue allocation. This area of research examines the budgeting of revenues. Does the organization of the budget process, the resources devoted to it and the concepts and techniques employed serve to efficiently provide the resources needed by postsecondary education? For example, does the distribution of functions among levels of government, the various agency organizational structures,

and inter-agency relationships contribute to effective allocation of revenues? Do these agencies receive sufficient operating revenues to effectively accomplish their purposes? Are the concepts and techniques of budgeting employed appropriate and efficient in terms of agency functions?

8. The administration of appropriated revenues. Studies in this area examine whether the process of expending revenues is properly organized and conducted in order to make the most effective use of resources. Such studies look at the policy direction provided by administrative leaders, the controls they exercise, the costs of administration and related topics. Major contemporary concerns relate to the cost of Federal and state regulations (Winkler 1976a, 1976b), the balance between state-level controls and institutional autonomy (Harcleroad, 1975), accountability (Bowen, 1974a), and productivity (Wallhaus, 1975).

9. The evaluation of the uses of revenues. This area of research analyzes the use made of monies expended. Studies such as fiscal, management and performance audits are made and the process of evaluation is explored.

All of the areas described above, in one way or another, are affected by declining rates of enrollment and the other long-range trends that are having an impact on postsecondary education. Just listing the issues raised by examining the effects of contemporary trends in each area would be a huge cataloging enterprise, going far beyond the time available for this paper. Consequently, this paper is limited to listing briefly these potential areas for research and then focusing in more depth on the following topics:

-the characteristics of the major trends that appear likely to affect postsecondary education finance,

-the effects these trends will have on revenues available, and

-the consequences of these trends for institutions.

The assumptions that lie behind this approach are:

1. Research on factors that affect the level of revenues made available to postsecondary education has not produced much in the way of causal theories. Studies generally have shown that in the past the urban, industrial, northern states have tended to provide a higher level of support to higher education than have the more rural and southern states.
2. An analysis of existing literature and theory, however, suggests that four inter-related trends do have a long-range effect on levels of revenues provided postsecondary education. These trends include: a) demographic changes, b) changes in student enrollment rates, c) fundamental shifts in the economy, and d) the changing social priority assigned to postsecondary education.
3. These trends, having a long-range effect on revenues, can be distinguished from short-term factors such as: a) new methods of financing or budgeting for postsecondary education (although such a change can be the culmination of one or more of the longer term trends), b) a successful or highly unsuccessful sports season, c) a failure of the corn crop, d) a major scientific breakthrough, e) student unrest, f) a major scandal, g) a change in political party, or h) a charismatic or inept president or chancellor.
4. These short-range effects do depress or enhance revenue prospects

in particular years and can have effects that last for some time. However, they are perturbations of long-term revenue trends and they gradually will yield to the more fundamental forces in society. The individuals affected adversely by these short-range effects, of course, will not get much solace from a longer-term view of their problems. Their perspective will be similar to that of the man draining the alligator swamp whose immediate problems distracted him from his long-term objective!

5. Some of these long-term trends, such as enrollment changes, have been analyzed in depth. Others, such as changing social preferences, have not been explored adequately.
6. More attention should be given to the cumulative impact that these trends have on levels of revenues and their effects on efforts to achieve the goals of postsecondary education.

MAJOR TRENDS AFFECTING POSTSECONDARY EDUCATION FINANCE

A description of four inter-related trends that are likely to have major impacts on postsecondary education finance during the coming decade and beyond reveals the fundamental transition that is taking place in our society.

Demographic Trends

There are several major demographic trends taking place which have major implications for postsecondary education.

Birth rate decline. The birth rate has declined significantly during the last 20 years. Throughout the 1950's, the U. S. birth rate was at its highest point since before the depression and relatively stable. The peak year for births was 1957, with a birth rate of 25.3 per 1000

persons and about 4.3 million live births. In the late 1950's and early 1960's, birth rates began to decline. By 1965, the birth rate was down to 19.4 per 1000, with 3.8 million births. By 1970, the rate was 18.4 per 1000 and live births were down to 3.7 million. The decline accelerated during the 1970's. The rate in 1975 was only 14.8 per 1000 and live births totaled 3.1 million (ACE, 1977a No. 1, 77.28, 77.29). Furthermore, birth expectations of women of childbearing age have continued to decline. In 1967, 39 percent of wives in the 18-39 age group expected to have two or fewer children. By 1975, 59 percent of wives intended to have two or fewer children (ACE 1977a, No. 1, 77.25). However, because the size of the population of childbearing age is large and increasing, even a small change in the birth rate translates into a large number of births. While there is speculation that the birth rate may have increased during the past year, it will be at least 18 years before any such change translates into postsecondary education enrollments.

Fewer persons of traditional college age. As a result of the declining birth rate, a smaller proportion of the U. S. population will be in the traditional college age group. Currently, about 19 percent of the U. S. population is in the 15-24 age group. This is up from 15 percent in 1950 and 16 percent in 1965. However, this age group is projected to decline to 17 percent of the population in 1985 and to 14 percent in 1990 (ACE, 1977a, No. 1, 77.7). From another perspective, the number of persons in the 15-24 age group increased by 49 percent between 1960 and 1970 but is projected to increase by only 14 percent between 1970 and 1980. Between 1980 and 1990, the number of persons in this age group is expected to decline by 16 percent (ACE, 1977a No.1, 77.6).

Aging population. Because of the high birth rate through the 1950's and the subsequent decline, an increasing proportion of the population

will be in age groups older than the traditional college age. Currently, about 26 percent of the population is in the 25-44 age group. This is up from 24 percent as recently as 1973. By 1980, 28 percent of the population is projected to be in this age group; by 1990, it will be 32 percent (ACE, 1977a, No. 1, 77.7). The number of persons between 25 and 44 years of age is expected to increase by 28 percent between 1970 and 1980 and by 26 percent between 1980 and 1990 (ACE, 1977a, No. 1, 77.6).

Participation Trends

Overall participation, or enrollment rates have shown a steady increase between 1960 and the present. Of the total U. S. population, 2.1 percent were enrolled in 1960; 3.0 percent in 1965; 4.2 percent in 1970; and, 5.2 percent in 1965. (NCES, 1977a; ACE, 1977a, No. 1, 77.6). This represents an increase of the rate of participation on the average of one percentage point every five years. In recent years, the pattern of this participation in higher education has begun to change.

Rate of college attendance. The ratio of new freshmen to high school graduates has not increased since 1970. The ratio of first time freshmen to high school graduates increased from .5 in 1955 to .61 in 1970 and remained at .61 in 1976. (ACE, 1976, No. 2, 76.79).

Part-time enrollments. The participation of part-time students has grown at a faster rate than that of full-time students. Between 1970 and 1975, the percentage of the population enrolled full-time increased from 2.8 percent to 3.2 percent while the percentage enrolled part-time increased from 1.3 percent to 2.0 percent. In 1970, 32 percent of all students nationally were part-time while in 1975, 39 percent of enrollments were part-time (NCES 1976-Table 1; NCES, 1971-Table 16; ACE, 1977a, No. 1, 77.5). Although age data are not available on a national basis, Maryland has begun to study the age distribution of part-time students. For the

Fall of 1976 for all Maryland institutions, 66 percent of part-time undergraduates were 24 or older (Maryland State Board for Higher Education-SBHE-unpublished data).

Male and female enrollments. Both male and female participation rates have continued to increase, but female rates have increased at a more rapid pace in recent years. Nationally, women made up 51.2 percent of the population in 1975 (ACE, 1977a, No. 1, 77.5) and 45 percent of the higher education enrollments. This was an increase from 41 percent of the enrollments in 1970. Between 1970 and 1975, female enrollments increased by 43 percent while male enrollments increased by only 22 percent. (NCES, 1977b-Table 1). Despite this significant increase in female enrollments, there remains further room for growth. As of 1975, 5.9 percent of all males and 4.6 percent of all females were enrolled in institutions of higher education (NCES 1977b-Table 1; ACE, 1977a, No. 1, 77.5). If the female rate would have been as high as the male rate, an additional 1.4 million students would have been enrolled.

Minority group enrollments. Minority student enrollments have increased significantly. In 1974, about 815,000 minority students were enrolled in higher education. This compares to about 737,000 in 1972, an 11 percent increase. In 1974, 539,500 black students were enrolled full-time, compared to 494,660 in 1972, a nine percent increase. (ACE 1976, No. 2, 76.92). Again, despite an increase in both numbers and participation rate, there is further room for growth. In both 1972 and 1974, Blacks constituted 11 percent of the U. S. population but only eight and nine percent of the full-time enrollments in those years, respectively (ACE, 1977a, No. 1, 77.5; ACE, 1976, No.1, 76.92).

Enrollments among segments. There have been significant shifts in the proportion of the total number of students who attend two-year

institutions and independent institutions. In 1965, 33 percent of all students were enrolled in private institutions. By 1975, this proportion had declined to 12 percent, although independent sector enrollments had substantially increased. (NCES, 1977b-Table 1). This decreasing proportion of students enrolled in private institutions occurred at the same time there was a rapid growth of two-year, primarily public, community colleges. In 1965, 20 percent of all students were enrolled in two-year institutions. By 1975, this increased to 35 percent (NCES, 1977a-Table 3.03).

Noncollegiate institution enrollments. Enrollments in noncollegiate institutions comprise a significant proportion of all postsecondary enrollments. In 1975, there were 1,732,900 students enrolled in 8,356 noncollegiate institutions. These students comprised 14 percent of all postsecondary enrollments for that year. Of these students, 57 percent were full-time and 75 percent attended privately-controlled schools (NCES, 1977a-Table 3.02). Nationally, 88 percent of all such institutions were privately controlled (NCES, 1977a- Table 3.06).

Economic Trends

The country is undergoing important changes in the characteristics of its economy.

Inflation. Since the late 1960's inflation has remained consistently high. Between 1967 and 1977, the Consumer Price Index increased by about 84 percent (U. S. Department of Labor, 1977a-Table 1) and the Wholesale Price Index (U. S. Department of Labor, 1977b-Table 1) by about 95 percent. Although average weekly earnings also increased substantially during this period, these increases barely kept pace with inflation. Average weekly earnings increased by about 94 percent between 1967 and 1977 for production and nonsupervisory workers in nonagricultural jobs. When adjusted for inflation, this increase was only 5.5 percent. After further

adjustment for social security and income taxes, spendable average weekly earnings actually declined by about 4% for a worker with three dependents and by 13 percent for a worker with no dependents (U. S. Department of Labor 1977c, Table 1).

Scarcity of energy and natural resources. A growing scarcity of energy and inexpensive natural resources, relative to growing demand, is requiring the expenditure of increasing proportions of income for these items. Between 1967 and September 1977, the Consumer Price Index increased by 84 percent. However, it increased 118 percent for gas and electricity and 185 percent for fuel oil and coal. (U. S. Department of Labor, 1977a-Table 1).

Growing competition for funds. During the last several years there has been growing competition for funds. As a percent of Gross National Product (GNP), expenditures for all levels of education grew substantially between the mid-1950's and the late-1960's, but have been stable since. In 1955, education expenditures amounted to 4.1 percent of the GNP. This rose to 5.0 percent in 1960, 7.3 percent in 1970, and has remained about the same since that time. The trend for higher education has been similar. The percentage of the GNP spent for higher education was 1.0 percent in 1955, 1.4 percent in 1960, 2.7 percent in 1970, and 2.7 percent in 1976 (ACE, 1977a, No. 1, 77.58). In terms of total governmental expenditures, higher education received increasing proportions until 1970, but has received a lower percentage since. Higher education received 3.7 percent of all governmental expenditures in 1955, 4.2 percent in 1960, 6.8 percent in 1970, and 5.6 percent in 1975. In contrast, the proportion of total governmental expenditures devoted to social insurance and public aid have increased significantly and continue to do so (NCES, 1977a-Table 6.02). In Maryland, the proportion of state revenues devoted to retirement benefits

increased from 7.9 percent in 1969 to 11.8 percent in 1977 (Maryland State Board for Higher Education, unpublished data).

Cost of higher education. Overall, during the past ten years, the costs of higher education have risen somewhat faster than the general cost of living. Between 1967 and 1976, the higher education price index (HEPI) rose by 77 percent compared to a 71 percent increase in the CPI (ACE, 1977a, No. 1, 77.46). However, in recent years the HEPI and CPI have risen at similar rates. Between 1971 and 1976, the HEPI rose 47 percent while the CPI rose 48 percent. To a large extent, the recent relative slowing in higher education costs results from higher education salaries lagging behind inflation since 1971 in order to compensate for greater than average cost increases in other areas. Professional salaries increased by only 33 percent since 1971. On the other hand, supplies and materials have increased by 64 percent; books and periodicals by 85 percent; and, utilities by 125 percent (NIE, 1977-Table B and Table 1).

Productivity. Higher education, like other service industries, historically has not been able to increase its productivity (O'Neil, 1971). Developments such as educational television and computer assisted instruction have yet to make a significant impact on educational productivity.

Shifting sources of revenues. The role of state and local governments in providing funding directly to institutions has grown while that of the Federal government has declined. On the other hand, the Federal focus has shifted to providing aid directly to students, a development which has compensated for its diminishing role in directly aiding institutions. Between FY 1966 and FY 1974 Federal funds decreased as a proportion of Education and General revenues from 25.8 percent to 17.6 percent (ACE, 1977a, No. 1, 77.60). However, during the period FY 1965-1975, Federal financial aid to students increased from $454 million to $6,913 million,

an increase of over 1,400 percent (Brookings, unpublished data).

Social Trends

A fourth trend affecting postsecondary education finance is changes taking place in the social priority that is accorded higher education. More research is needed to fully document higher education's decreasing priority in the public mind, but considerable evidence is available. Discussions of over educating persons are becoming more prevalent. Politicians less frequently campaign for office on the basis of what they will do for higher education. State agencies increasingly are concerned with accountability and are initiating institutional evaluations and audits. Surveys of state budget officers show higher education's priority has declined and that they expect it to decline even further in future years (Center for Research and Development in Higher Education, unpublished data). There appear to be several reasons for the apparent decline in public support.

Economic benefits of higher education. The economic value of higher education is increasingly being called into question. Various studies have shown decreasing rates of return to a college degree and the job market for college graduates has not been good for several years.

Production of advanced degrees. Studies have repeatedly shown that in many fields, universities are producing more individuals with advanced degrees than the demands of the job market require. For example, a recent study indicated that, in total, about three times as many Ph. D.'s as required for traditional places of employment would be produced between 1972 and 1985. (ACE, 1977, No. 1, 77.55).

THE IMPACT OF TRENDS ON HIGHER EDUCATION FINANCE

Impact of Demographic Trends

The major increases in the revenues devoted to higher education in the past have resulted from increases in enrollments. Total current fund expenditures increased during the past five years by 50 percent in current dollars and by 16 percent in real dollars. However, at the same time, full-time equivalent (FTE) students increased by 16 percent. As a result, expenditures per FTE grew by 29 percent in current dollars but remained constant in real dollars (Froomkin and McCully, 1977). Consequently, the decreasing rate of increase in the number of high school graduates, with absolute declines ahead for most states, will have a major impact on the amount of revenues devoted to higher education.

Two dilemmas will confront higher education as enrollment driven revenues for many institutions level and decline. First, new bases for justifying budget increases will be needed. Second, migration and population growth patterns will result in some campuses growing, some remaining stable and others contracting; often within the same state.

As enrollment growth no longer serves as a basis for budget increases, larger budgets will have to be justified on the grounds that institutions are providing new services or making qualitative improvements. Higher education already is beginning to emulate the example of elementary/secondary education by seeking funds for special programs to assist particular student populations, such as the handicapped and culturally or educationally deprived. Higher education also is beginning to develop new rationales for gaining additional governmental revenues. States such as Nebraska and Florida have justified a portion of their budgets on the need for selective improvements in the quality of programs. Tennessee has obtained funds to provide incentives for institutional change in situations

where added funds cannot be justified by enrollment growth. The Maryland State Board for Higher Education is seeking funds for the same purpose.

Research is needed to assess new approaches being used to justify budgets, their success in obtaining revenues and the value of the uses made of these added revenues.

The changing migration and population growth patterns will create particularly difficult dilemmas. Seven states are expected to have a 15 percent or greater decline in the number of 18 year olds between 1978 and 1985. Fifteen additional states will experience enrollment growths of ten percent or more during this decade (ACE, 1977b). Some states, consequently, will be faced with substantial cutbacks in at least some of their institutions while others will be stable and still others will continue to grow. These differing circumstances will complicate efforts to provide Federal support for higher education. The variability in circumstances will make it difficult to design consistent, equitable nationwide rationales for support of higher education. Therefore, the current trend toward Federal dollars providing a decreasing share of operating revenues is likely to continue. Within states, the different enrollment patterns will present an even more difficult problem. States will be faced with the prospect of demands for new programs and facilities at growing campuses while on others buildings will be empty and programs under enrolled. In Maryland, for example, since 1970, three public four-year campuses have had enrollment growth of over 50 percent, five between 25 percent and 50 percent, three between ten percent and 25 percent, and two have been relatively stable, (SBHE, unpublished data). The unit costs per student for instruction and related programs range from $2,275 to $2,689 at the larger fully enrolled campuses and from $3,177 to $3,860 for those that are under enrolled (SBHE, unpublished data).

Such a variable situation leaves a state with difficult choices. Constructing new buildings and creating new programs at expanding campuses will require more state revenues. The imposition of enrollment ceilings and attempts to redirect students will require reversing the basic trends that lead to students not selecting particular campuses in the first place. Such reversals are complicated and entail "start up" costs. The factors that influence student choice often are difficult to discover and are even more difficult to control. If additional state funds are not provided and campuses losing students are not made more attractive then enrollments must be limited, reducing access, or the costs of programs reduced, affecting quality.

Research is needed to determine how states are adjusting to situations of simultaneous growth and decline, the added costs imposed by under utilized facilities and programs and possible ways in which these costs can be reduced.

Impact of Changing Participation Trends

Changing trends in participation pose a number of significant problems for postsecondary education finance. One problem is the stability of the trends. As trends change, will unnecessary facilities be built or located at the wrong campuses? Will the right kinds of facilities be provided to meet emerging needs?

Participation by sex. Female enrollment is rapidly increasing. How much of this increase represents meeting persistent needs of women resulting from fundamental alterations in their role expectations and their consequent needs for higher education? Does part of the increase represent the assimilation of a past backlog of unmet needs with a decline in participation coming once the backlog is eliminated? Is part of the increased participation rate the result of transitory social fashions that

will fade as historic conflicts between the roles of mother and that of wage earner become more apparent? Because women make up 51.2 percent of the population, the answer to these questions will have a significant impact on the demand for revenues.

Participation by race. The number and percent of blacks enrolling in postsecondary education also is increasing. Furthermore, blacks are making up an increasing proportion of the population. However, Blacks, Chicanos and Indians are disproportionately represented in lower income strata and family income correlates positively with participation in higher education. National and state policies are likely to be influential in determining enrollment rates from low income families. Financial aid programs and efforts to limit tuition are likely to make a difference. Continued research is needed to test the impact of aid and tuition policies on participation by income level.

Participation by age. The data on student participation by age categories has particular significance for postsecondary education finance. Yet national data in this area is highly inadequate. Major efforts are needed to remedy this deficiency. Many persons are looking to an influx of older students to rescue institutions from problems caused by the decline anticipated by many states in the numbers of recent high school graduates.

Some factors are acting to increase the number of older students likely to enroll in postsecondary education. First, as already noted, the number and proportion of adults in the population is increasing as those born during the post World War II baby boom are becoming adults. Second, there appears to be a trend in many occupations toward increasing in-service training requirements. Third, the growing popularity of the concepts of postsecondary education and recurrent education are making it more socially acceptable for older students to attend classes with their

juniors. Fourth, there is some evidence that students dropping out of college are more frequently returning at a later date than was true in the past. Also, we are discovering in Maryland that increasing numbers of four-year college graduates are returning to two year schools to take occupational programs. In Maryland, the State Board for Higher Education is beginning to obtain enrollment data with student identifiers so we can explore these trends. Fifth, a large proportion of the females enrolling appear to be older women returning for career preparation after raising their families, getting a divorce or finding that a second salary is needed to meet family economic aspirations. Total female labor force participation rates have increased steadily and reached 47 percent in 1976. Single females had a 59 percent rate and married females had a 45 percent rate. Since World War II, the single female employment rate has been consistently high (51 percent in 1947) but the married female rate, which was 20 percent in 1947, has more than doubled (U. S. Department of Labor 1977d-Table B-2 and Table 4-2). Sixth, there are some indications that adults enroll more frequently when they previously have had some higher education. Finally, when economic circumstances are adverse, education makes persons more competitive in the marketplace while at the same time they involuntarily are faced with less foregone income as a result of unemployment (Corrazzini, et. al. 1972).

Much better data is needed on enrollment trends by age categories and further research is needed on the factors that influence adult enrollments. Since many adults are employed, or have ties to a particular location, it seems clear that they more frequently will be part-time students and will tend to patronize institutions within commuting distance of their homes. The net affect of these factors will have profound implications for the revenues needed in coming years.

Participation by part-time students. The growth in the numbers of part-time students seems highly likely to continue as a result of the increasing number and proportion of adults in the population and current economic imperatives. Part-time students, regardless of age, tend to enroll in nearby institutions. In Maryland, the strongest predicter of a student's choice of an institution was found to be its proximity (SBHE unpublished data). This trend, along with the increase in adult students, will reduce the residential proportion of enrollment at campuses. This suggests that a very careful examination is needed of plans for dormitories and other auxiliary facilities that primarily serve residential students. This trend toward increased part-time enrollments has profound implications for institutions that have imported their students from beyond their regions in the past and who have relied mainly on enrolling recent high school graduates. Unless such institutions are highly competitive, they are likely to suffer serious enrollment declines. Studies are needed of the costs of educating part-time students in contrast to those attending full-time. If there is a difference in costs then the trend toward part-time students will significantly affect future revenues requirements.

Participation by income level. Data is available on the income levels of the families of students attending higher education. However, this data often is not complete and is difficult to obtain. In general students from disadvantaged backgrounds are one and one-half to two times less likely to enter college than those from high socio-economic backgrounds (NCES, 1977a-Table 4.15). Trends in enrollment rates by income are complicated by confusion over parent versus self-support but the social significance of changing participation by income level is great and more attention should be given to research in this area.

Participation by ability level. Considerable data is available

on the participation rates of students by ability levels as measured by standardized tests. The percentage of high ability students going on to college is two to three times as great as that for middle and low ability students. However, even among high ability students, the percent going to college is substantially lower among those from low income families than for those from families with higher incomes (NCES 1977a-Table 4.15). There is room for expanding enrollments of higher ability students from low income families if the complications of current student aid programs can be reduced and tuition and fees are maintained at or below current levels. However, in view of the financial squeeze affecting institutions and the complications of altering student aid programs, little improvement in low income student participation seems likely. In fact, the current economic circumstances appear likely to lead to tuition increases that will have the opposite effect. An analysis of studies on the effects of tuition increases on attendance by Jackson and Weathersby (1975) indicated that for each $100 increase in tuition, enrollment rates fell from between .06 to 1.9 percentage points. Only a major national effort to identify and enroll high ability students from low income families seems likely to increase their participation rates.

Participation by type of academic program. Ever since the advent of the elective system for designing student programs, and the growth of programs offered in the curriculum, there have been periodic shifts of students among academic fields of study. The trend toward fewer required courses accelerated during the 1960's and particular fields of study gained or lost enrollment as different disciplines became identified with emerging social concerns and as employment opportunities changed for various occupations. During a period of growing enrollments, these shifts were not as difficult to manage as at present. Generally, it was a case of

different rates of growth among programs, not of program reductions. As enrollments stabilize or decline at institutions, these shifts among programs will require more difficult adjustments. Institutions will be left with excess faculty and facilities in some areas while other areas are under staffed and located in cramped quarters. Adjusting faculty imbalances usually takes time. Rapid adjustments have heavy political as well as academic costs. Consequently, there is a likely prospect that costs-per-student will increase in stable or declining institutions when shifts take place in student preference. A campus may have excess education faculty and lack faculty in engineering. Similarly, a campus may have excess general classroom space but lack laboratory space needed for an expanding scientific field. Building needed laboratories will increase proportion of costs devoted to maintaining facilities. Thus, less funds will be available for instruction. Current budget formulas generally do not recognize the problems and the adjustments necessary to maintain quality during periods of stable or declining enrollment.

Participation by type of institution. All of the trends noted are having differential effects on enrollments at major universities, four-year colleges and two-year colleges. They, also, are having different effects on the growth of the public, independent and noncollegiate sectors of postsecondary education. The two-year institutions appear to be profiting most from long-term trends. They are located close to potential students, have a tradition of serving older students, are geared to part-time enrollments, generally are less expensive and have shown an ability to adjust quickly to new demands.

The four-year colleges generally have relied most heavily on recent high school graduates, full-time residential students, on-campus course offerings and liberal arts programs. Many of these institutions

now are moving to attract older, part-time students and offering programs off campus. They also are developing more career-oriented programs in addition to their traditional general education programs. They need to explore more thoroughly possibilities for articulating their occupational programs with the technical programs provided by the two-year institutions. However, as Berdahl (1977) has noted, a clear concept of the mission of these four-year colleges has yet to fully emerge. Consequently, they appear likely to suffer most when enrollments decline. In many states, measures to strengthen these institutions are needed if they are to avoid serious enrollment declines and underutilized campuses.

The major universities typically are the prestige institutions in their states. This gives them some competitive advantage in attracting students. In addition, they can attract students away from other institutions by lowering their admission standards. This possibility will no doubt tempt many of them. Graduate faculties in universities often have been reluctant to admit part-time students, feeling that to do so would lower the quality of graduate programs. This reluctance reduces the number of older students they attract. Also, many universities have shown a reluctance to take programs off their campuses. This has led to establishing non-traditional programs and to an entrepreneurial group of institutions that are taking their programs into other states, thus filling this void. When enrollments decline universities are more likely to view favorably part-time graduate students and off-campus programs. Despite such problems, however, over the long run the major universities are less likely to contract than are the four-year colleges. The major danger universities face is relatively lower funding if budgeting practices are adopted that do not fully recognize the full range of university functions and the full costs of graduate programs and research.

The shift of students among campuses needs far more attention than it has received if states are to avoid becoming saddled with unneeded plant and consequently higher average costs per student. This problem will be compounded by the increasing costs of energy. States can ill afford to heat and maintain unneeded space. Some attention should be given to the feasibility alternative uses and of "moth balling" buildings as one way to meet such contingencies.

Participation among the public, independent and proprietary sectors. The increase in the proportion of students attending public, rather than independent institutions seems likely to continue, but at a slower pace as enrollment growth lessens. Independent institutions generally have been more oriented to residential full-time students, who will become relatively scarce. The smaller, underendowed liberal arts colleges particularly will bear the brunt of enrollment declines. The plight of these institutions has been described by Jellma (1971), Jenny (1969), Minter and Bowen (1977) Cheit (1971, 1973) and Froomkin (1977).

Many independent colleges are now changing substantial numbers of their programs from the traditional liberal arts to those that are occupationally oriented. This, however, will put them in a "Catch 22" situation. The less distinctive their missions, the more that they will have to compete with public institutions on the basis of costs. The independent institutions are not likely to survive easily such direct cost competition; they have to sell a special kind of education that students feel warrants the added cost.

A number of independent institutions seem likely to go out of existence. From 1970 to 1976, 113 independent institutions closed and 15 shifted to public control. Only 46 new independents opened during this period leaving a net loss of 67, not counting those becoming publicly

supported. (Chronicle of Higher Education, 1977). Legislators faced with a choice between the survival of public and independent institutions find it easier for the marketplace to take its toll of independents without action on their part than to take the overt act of merging or withdrawing support from public institutions. A few independent institutions facing financial disaster may, as in the past, persuade legislatures to make them public institutions, usually adding unneeded capacity to the public system and further jeopardizing the survival of other private institutions. All will continue to seek increased public aid, some of it going to marginal institutions, again decreasing the revenues available to maintain the viability of less afflicted institutions. Additional aid going to the independent institutions will come out of the total state funds potentially available for higher education and, consequently, will reduce the funds available for public institutions.

Little is known about enrollment trends in the noncollegiate institutions. Much better data is needed regarding these institutions. They appear to appeal to students who want specific knowledge or skills but do not wish to take the general educational requirements often required by collegiate institutions. As a result of the trend to incorporate these institutions into the broader definition of postsecondary education, more attention is being paid to potential duplication of their programs by nearby public institutions, particularly community colleges, and the noncollegiate institutions are obtaining public support through laws making their students eligible for public student financial aid.

The Impact of Economic Trends

Long term economic trends are difficult to perceive and short term trends often are confused with more lasting chances. Forrester (1976) explored the impact of fundamental long-range economic trends on higher

education. Much is being written on the shift of population and economic growth to the "sun belt" (Business Week, 1976). Surveys are being made of the fiscal circumstances of state and local governments (Joint Economic Committee, 1975). Bowen (1974) and Millett (1975) have examined higher education as a service industry and suggested that there will be continuing expansion of this sector of the economy.

The first issue for higher education that can be distilled from current analyzes and predictions concerns whether our economy will continue to expand, increasing real income, and, if so, at what rate. The major cloud on the horizon is the increasing costs of energy and natural resources. If these basic commodities begin to absorb a larger portion of our income, less will be left over for the service sector of the economy and education most likely will suffer. As our nation has expanded and grown more industrial, we increasingly are having to face the many forms of pollution that are a by-product. Adequate measures to protect our environment may absorb increasing amounts of revenues and further divert funds from education.

Another factor that will affect our long-term prospects is the status of our competitive advantage in international trade. We have seen the rise in recent years of the multi-national corporations and the phenomena of decisions being made on whether to locate U. S. factories in Singapore, Korea or Mexico rather than such decisions being limited to whether Massachusetts or South Carolina would be preferable. Furthermore, the depletion of our oil reserves and the need for increasing imports will have an adverse effect on economic growth.

Another factor influencing long-term economics prospects is the bulge in the population now being assimulated in our colleges and work force, later on to be cared for in retirement by a relatively smaller group

of wage earners. As noted earlier, an increasing proportion of personal income is being expended in the public sector. Within the public sector, however, retirement and other programs are taking up an increasing percentage of the available revenues and are beginning to face financing problems. To some extent, however, declining enrollments will reduce the need for public expenditures for higher education.

THE IMPACT OF SOCIAL TRENDS

In a sense, higher education's priority has been a victim of its own success. The proportion of people attending institutions has, until recently, increased dramatically. As a result, more people today are familiar with colleges. Consequently, institutions have lost some of their mystique, and are more vulnerable to the types of criticism often leveled at elementary and secondary schools. Furthermore, a higher degree no longer assures the same possibilities for upward social mobility that it did in the past. The gap rapidly is narrowing between the salaries of college graduates and those without a baccalaureate degree. The growing familiarity of the public with higher education, together with its diminished role as a conveyor of social status no doubt will adversely affect its competition with other state programs for public dollars.

Historically, higher education generally has had a clear mission that was closely identified with the achievement of important national goals. In the early years of our country, a degree conferred status, promoted social mobility and, by promoting mobility, was a major component of the American "melting pot". Later it also provided technical experts for industrial and agricultural progress. Today there is much less emphasis on the concept of the "melting pot" as we are attempting to preserve ethnic differences and promote cultural diversity. The shortages of technically trained persons are not as critical today in many fields as they

were in the recent past. These changes have confused the sense of purpose of higher education. Similarly, higher education is debating intensely the balance it should achieve between providing for the academically talented and for the broader segment of society that can profit from some form of postsecondary education. This debate tends to dwell on topics such as admission requirements and grading practices. During World War II and the cold war period, higher education provided the trained manpower and research that ensured our security. Public disenchantment resulting from the Vietnamese War has called the supremacy of high technology somewhat into question. This skepticism has been increased by the discovery of the many adverse affects created by our scientific inventions: drugs have produced deformed babies and created cancer, insecticides and other chemicals have polluted our environment.

Generally, in the past there was a very substantial demand for almost all degrees produced by our institutions. Today, this is no longer so. The occupations that traditionally have required college degrees frequently have more applicants than they can accept. Thus, students entering colleges with expectations that they will find the traditional forms of employment reserved for holders of degrees are being disappointed. There is evidence in Maryland that many students with a four-year liberal arts degree are returning to two-year community colleges to undertake more occupationally oriented programs. Furthermore, the field of education itself has become a prime example of an area in which many people believe there is an over supply of trained manpower. More teachers and professors are being produced than there are job opportunities. As already noted, the supply of holders of the doctorate in many fields is expected to far exceed the demand for the foreseeable future. Students of manpower economics have been in conflict over some of the assumptions

made about the levels of education needed by an advanced society. Some scholars such as Freeman (1976) have contended that we are educating a larger proportion of our society than is needed. This concept also has been popularized by Bird (1975). On the other side of the issue, Bowen (1977) argues that a higher education is not oriented solely toward increasing one's income, that there are other social and noneconomic benefits that are equally important.

THE IMPACT OF CONTEMPORARY TRENDS ON THE GOALS OF POSTSECONDARY EDUCATION

Four broad goals can be identified for postsecondary education. These goals are access, diversity, quality and economy. Access involves the ability of students who have differing needs and come from a variety of socioeconomic backgrounds to get the best available postsecondary education from which they are capable of benefiting. Diversity involves ensuring that there are a sufficient variety of institutions and programs available to meet all of the legitimate needs of prospective students. Quality concerns the ability of students, the effectiveness of programs, the characteristics of faculty, and the characteristics of the facilities and technologies that are available for instructional programs. Economy concerns how effectively and efficiently the other three goals are achieved; it represents seeking the appropriate trade off between achieving the other goals and the amount of resources needed to support them. Each of these four goals of postsecondary education are affected in a variety of ways by the trends discussed earlier in this paper. Some likely impacts of these trends will be discussed for each of the goals.

Access

The coming challenge to access will be to provide programs where increasing numbers of students are available, most frequently part-time and older students. A continuing growth of off-campus programs will be

required to serve these students. Institutions will have considerable incentive to develop such programs to offset the declining number of residential students at their campuses. As programs for older students and part-time students increase, states are going to insist more strongly that there be careful definitions of which of these courses serve vocational and academic goals in contrast to avocational goals. The increasing cost squeeze on institutions is likely to lead to increases in tuition as institutions seek to avoid program reductions with attendant lay-offs and transfers of faculty. As tuitions increase lower and middle income students are going to find access more difficult and some will not enroll in post-secondary education. Efforts are being made to offset these higher costs by increasing the funding of student financial aid. However, at present, procedures for utilizing financial aid programs are complex and the programs are poorly coordinated; thus such aid is not fully offsetting the effects of tuition increases. The simplification and coordination of student aid programs should be one of our major national goals over the next few years. Another barrier to access may be enrollment ceilings that state agencies impose. These ceilings are intended to: 1) reduce budgets to cope with revenue declines, 2) lead institutions toward becoming more selective in their enrollments, 3) balance out enrollment increases and decreases across institutions, and 4) give a greater predictability to budgetary requirements. These ceilings will not be imposed with the conscious purpose of limiting access but, unless they are set very carefully and coordinated with efforts to build quality in declining institutions, they well could have this effect.

Diversity

The growth in the number of institutions will be small over the next decade. The leveling and declines in enrollments will eliminate the

most important justification for new institutions and those that are established will be aimed at off-campus students or new and innovative efforts not duplicated elsewhere. Some limited increases in the number of institutions could occur as a result of the shift of the population to the South and as the states complete systems of community colleges. A number of institutions are likely to close and, as noted earlier, these are more likely to be independent institutions. Legislators faced with the prospect of closing public institutions are not likely to resist the political demands for their survival unless the institutions become so hopelessly marginal that almost nothing can be done to maintain them. The public four-year colleges and universities, as noted earlier, will be squeezed on one side by the growing and widely distributed community colleges and on the other side, by the prestigious universities. These colleges will have to make strenuous efforts to define clearly to the public their role, to articulate their programs more closely with those of the community colleges, and to identify themselves closely with regional concerns. Cut-rate programs in popular areas such as business administration and education are likely to proliferate unless checked by state higher education agencies as part of their accreditation and program review function. The number of institutions attempting to offer such off-campus programs across the country may continue to increase unless state efforts designed to ensure quality are successful. The independent institutions also will be under heavy pressure to offer programs that attract enrollments. As noted earlier, this could endanger their uniqueness and over the long run, make them more vulnerable to enrollment declines. These institutions will face the critical dilemma of either increasing the quality of their programs, thus making their campuses attractive enough to lure students, or attempting to cut costs in order to make the savings necessary to avoid

tuition increases.

Quality

The trends that are taking place will affect the quality of the students in some institutions, the quality of programs, the quality of faculty, the support given research, the quality of administration and student support services. As enrollment falls, institutions, as noted, will face a strong temptation to lower their admission and retention standards. There appears likely to be attempts by the states to offset this tendency through the use of enrollment ceilings, particularly for the public four-year institutions. There will be a concern on the part of universities that the increase in part-time students and growing number of evening and off-campus programs will tend to lower the quality of degrees. The fear of declining enrollments may restrain institutions that wish to become selective.

The difficulties of shifting resources among programs within an institution will tend to reduce program quality since under enrolled programs will absorb funds that could have been diverted to expanding or innovative programs. Attempts to improve quality may begin to get more visibility as quality becomes a more improtant basis for budget justifications for institutions seeking to loosen the linkage between enrollment growth and budget increases. Courses that are not popular with students will have a difficult time attracting resources. This may lead institutions to increase the number of required courses but in doing so taking care to not cause themselves to lose students. Unemployment will continue to place a premium on career oriented curricula. This tendency could be to the detriment of the liberal arts. Research will be particularly vulnerable to budgetary stringency, including both directly supported research efforts and departmental research supported indirectly by lower

teaching workloads.

The quality of the faculty also may decline as they are less able to transfer between institutions and travel monies are reduced, providing them with less exposure to new ideas and to changes taking place on other campuses. The faculty will have a greater average age leading to conservatism. The decreasing opportunities for transfers will lead to greater pressures to promote from within.

The continued demand for data and the regulation of institutions will increase their costs of administration. Much of the incentives for institutional change seems likely to come from external agencies, particularly state higher education agencies. Institutions will find it politically difficult to make internal shifts of resources and legislators and governors increasingly will look to state higher education agencies to initiate changes that are difficult to promote at the campus level. The physical plants and libraries at campuses could deteriorate unless firm steps are taken to maintain their support. Some of these steps may have to be taken by state level agencies because institutions will be under heavy pressure to maintain support for their faculties and programs at the cost of other areas.

Economy

The major diseconomies in postsecondary education are going to result from underutilized campuses, unneeded buildings and underenrolled programs. Very little in the way of sugnificant savings is possible from greater managerial efficiency or technological advances. The major inefficiencies are going to result from political problems that are inherent in cutting back and shifting resources among areas. State legislatures will be the principal agents in maintaining inefficient practices as they protect the interests of their districts and constituents. The cost of data

collection and of regulation, as noted earlier, is likely to continue to increase and inflation will consume revenue increases although there may be some savings from energy conservation measures. The use of part-time faculty receiving lower salaries, for evening programs will cut costs but pressures are mounting to provide salaries that are proportionately equal for part-time faculty and full-time faculty and pressures will be increasing to find employment for new doctoral degree holders. The large supply of Ph. D. holders relative to demand in traditional areas of academic employment will create market conditions that will tend to depress academic salaries (Froomkin, 1977). However, the increasing age of the faculties will place a higher proportion of them at the top of pay scales, off-setting the savings from lower entry level salaries. Very likely more of the costs of student services will be born directly by students as ways are sought to reduce public expenditures. The fees for such services together with tuition increases, will act to further inhibit enrollment increases.

Conclusion

Some of the issues dealt with in this limited analysis that require additional research, or the summarization of the implications of available research, include:

1. How do the states treat revenues raised by institutions when arriving at decisions on state budgetary allocations? What guidelines might be developed to ensure that institutions retain incentives to seek non-state funds while at the same time assuring the prudent use of state funds?
2. What justifications other than enrollment increases are being used to obtain state revenues? What implications do these justifications have for longer run support of higher education and how successful have they been in the shorter-run?

3. What actions are states taking to deal with the costs of under utilized campuses? How successful have they been?
4. What are the impediments students encounter in obtaining adequate financial aid? What can be done to remove these impediments?
5. What distinctions are the states making between courses that are eligible for state support and those that are not?
6. Given the increasing demands on state revenues from retirement, welfare, health and other service programs, what pressures are likely to be placed on the percent of state revenues available for higher education?
7. What trends are taking place in enrollments at non-collegiate institutions? What is the magnitude of public funds they are receiving directly and indirectly through having their students eligible for public financial aid?
8. What additional costs have been imposed on institutions by increasing Federal and state regulations? What effects have Federal and state demands for data and research had on the costs of administration of institutions?
9. What trends are taking place in public attitudes toward higher education? What relationship, if any, is there between shifts in attitudes and trends in state budget allocations?

The Education Commission of the States might profitably address some of these issues, or stimulate others to do so. The list is presented in roughly a priority order. The results of research in these areas should be very useful to states as they plan ahead to cope with the trends taking place in our society.

This examination of the prospects for financing higher education no doubt appears rather pessimistic as the problems lying ahead are assessed

and prospects are explored. The future, however, always holds challenges. The American citizenry directly and through their elected representatives always has supported higher education at a level unmatched throughout the world. The best assurance that this tradition of support for higher education will continue is candid assessment of the problems that lie ahead and frank discussion of the decisions that must be made. There admittedly is a danger that candid discussions of the financial problems ahead will lead to anticipatory political actions that decrease revenues even further than otherwise might be the case. However, in the past, legislatures generally have been highly supportive. Failure to gain a clear perspective on the issues we face seems a surer way to bring about legislative disillusionment and declining public support than accurate and open analysis.

BIBLIOGRAPHY

American Council on Education. A Fact Book on Higher Education: Demographic and Economic Data, Washington, D. C.: American Council on Education, 1977a, No. 1.

American Council on Education. Changes in Enrollment by 1985. Washington D. C.: American Council on Education, 1977b.

American Council on Education. A Fact Book on Higher Education Data: Enrollment Data, Washington, D. C.: American Council on Education, 1976, No. 2.

Berdahl, R. O. Comments at a seminar given for the members of the Maryland Board for Higher Education, September 1977.

Bird, C. The Case Against College. New York: McKay, 1975.

Bowen, H. R., Investment In Learning. San Francisco: Jossey-Bass, Inc., 1977.

Bowen, H. R., (Ed.) Evaluating Institutions for Accountability. (New Directions for Institutional Research, Number 1, Spring 1974) San Francisco: Jossey-Ball, Inc., 1974a.

Bowen, H. R. "The Effective Use of Financial Resources" In H. R. Bowen and S. K. Bailey (Eds.), The Effective Use of Resources: Financial and Human. Washington, D. C. : Association of Governing Boards of Universities and Colleges, 1974b.

The Brookings Institution, (Unpublished data on Federal higher education expenditures) 1977.

Business Week. "The Second War Between the States", May 17, 1976.

Center for Research and Development in Higher Education, University of California, Berkeley, (Unpublished survey data).

Cheit, E. F. The New Depression in Higher Education - Two Years Later. New York: McGraw-Hill, 1973.

Cheit, E. F. The New Depression in Higher Education. New York: McGraw-Hill, 1971.

Chronicle of Higher Education, Vol. XV, No. 13, November 28, 1977, p. 6.

Corrozzini, et. al., "Determinants and Distributional Aspects of Enrollment in U. S. Higher Education", The Journal of Human Resources, Vol. VII, No. 1, Winter 1972, pps. 39-59.

Forrester, J. W. "Moving Into the Twenty-first Century--Dilemmas and Strategies for American Higher Education" Paper presented at the General Session of the 62nd Annual Meeting of the Association of

American Colleges, Philadelphia, February 9, 1976.

Freeman, R. B. The Over-Educated American. New York: Academic Press, 1976.

Froomkin, J. and McCully C. A Review of Financial Developments In Higher Education, 1970/71 - 1974/75, and A Prognosis for 1980-1985. Washington, D. C.: Joseph Froomkin, Inc., 1977.

Harcleroad, F. F. Institutional Efficiency In State Systems of Public Higher Education. Tucson: College of Education, University of Arizona, November 1975.

Jackson, G. A. and Weathersby, G. B., "Individual Demand for Higher Education: A Review and Analysis of Recent Emperical Studies", Journal of Higher Education, Vol. XLVI, No. 6, Nov/Dec., 1975, pps. 623-652.

Jellma, W. W. The Red and the Black - Special Preliminary Report on the Financial Status, Present and Projected, of Private Institutions of Higher Learning, Association of American Colleges, Washington, D.C. 1971.

Jenny, H. and G. R. Wynn: The Golden Years, College of Wooster, Wooster, Ohio, 1970.

Joint Economic Committee of the U. S. Congress. "The Current Fiscal Position of State and Local Governments" (Prepared for the use of the Subcommittee on Urban Affairs) May 6, 1975 (Mimeographed).

Millett, J. D. "Economic Problems of Higher Education" Paper presented at the meeting of the National Association of College and University Business Officers, New Orleans, July 9-11, 1975.

Minter, W. J. and Bowen, H. R. Private Higher Education: Third Annual Report on Financial and Educational Trends in the Private Sector of Higher Education. Washington, D. C.: Association of American College, May 1977.

National Center for Educational Statistics, The Condition of Education, Washington, D. C.: U. S. Government Printing Office, 1977a.

National Center for Educational Statistics, Fall Enrollment in Higher Education, 1975: Summary Report. Washington, D. C.: U. S. Government Printing Office, 1977b.

National Center for Educational Statistics, Fall Enrollment in Higher Education, 1975: Institutional Data. Washington, D. C.: U. S. Government Printing Office, 1976.

National Center for Educational Statistics, Fall Enrollment in Higher Education, 1970: Supplementary Information. Washington, D. C.: U. S. Government Printing Office, 1971.

National Institute of Education, Higher Education Prices and Price Indexes: 1977 Supplement. Washington, D. C. : U. S. Government Printing Office, 1977.

O'Neill, J. Resource Use in Higher Education. Berkeley, California: Carnegie Commission on Higher Education, 1971.

U. S. Department of Labor, Retail Prices and Indexes of Fuels and Utilities, September, 1977. Washington, D. C.: Department of Labor, 1977a.

U. S. Department of Labor, U. S. Department of Labor News: Wholesale Price Index - September, 1977.

U. S. Department of Labor, U. S. Department of Labor News: Real Earnings in October, 1977. Washington, D. C.: Department of Labor, 1977c.

U. S. Department of Labor, Employment and Training Report of the President. Washington, D. C.: Department of Labor, 1977d.

Wallhaus, R. A., (Editor) Measuring and Increasing Academic Productivity. (New Directions for Institutional Research, No. 8, Winter 1975) San Francisco: Jossey-Bass, Inc., 1975.

Winkler, K. J., "Government Rulemaking: Any Hope for Simplification?" The Chronicle of Higher Education. Vol. XIII, No. 16, December 20, 1976a, p. 5.

Winkler, K. J., "Proliferating Federal Regulations: Is Government Now 'The Enemy'?" The Chronicle of Higher Education, Vol. XIII, No. 15, December 13, 1976b., p.3.

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